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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,607	06/20/2000	Sunil K. Rao	RAO-013	5943

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EXAMINER

CHOW, CHARLES CHIANG

ART UNIT

PAPER NUMBER

2684

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/597,607

Applicant(s)

RAO ET AL.

Examiner

Charles Chow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**Detailed Action**

1. A oath, declaration, is not filed with this case. According to MPEP § 602, a oath, declaration, needs to be filed with this case. Correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Regarding claim 1, the “(select)” renders the claim indefinite because the claim include elements which is not actually positively claimed and renders the scope of the claim unascertainable due to the confusing situation created by “(select)”.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lata et al. (US 4,853,888).

Regarding **claim 1**, Lata discloses a keyboard comprising a plurality of configurable keys (programmable multifunction keyboard 16, with plurality of keys 18, figure in cover page, abstract).

Lata discloses the central server (host system 10, the keyboard processor 12, figure in cover page, Fig. 1, 2) means for dynamically configuring a legend on a selected key from the

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configurable keys (the display of legend for key; the dynamically changing keyboard configuration from configuration 70 to configuration 72, and further to configuration 74; the database, within the keyboard processor 12, stores the dynamically modified keyboard configuration; col. 4, lines 48 to col. 5, lines 24; Fig 2, Fig. 4-5, Fig. 7, Fig. 17-18).

Lata discloses means for detecting an actuation of the selected key with the legend (the actuation control means 46 for monitoring the switch such that when switch is activated, an actuation signal is generated to identify the actuated switch; col. 17, lines 44-48).

Lata discloses means for associating the actuation of the selected key with the legend on the selected key (the displayed each legend is associated with each key switch; col. 17, lines 38-38).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lata in view of Buisson et al. (US 4,844,637).

In the above, Lata does not clearly indicate the liquid crystal display LCD, although Lata has shown above the displayed legend for each key.

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Regarding **claim 2**, Buisson teaches the plurality of keys each include an LCD device.

Buisson teaches the assigning defined distinct configuration for each key of the keyboard requested by operator (abstract). Buisson teaches the graphic flat panel display is a liquid crystal display LCD to display the symbol assigned to each key (abstract). It is apparently obvious to include Buisson's flat display LCD for displaying configured symbols (anti-reflection, col. 1, lines 46) assigned to each key by the operator, to Lata such that the display of the symbol would be improved by using Buisson's efficient LCD display for the symbol of each keys (col. 2, 13-18). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Buisson's flat LCD for displaying configured symbols assigned to each key, to Lata such that the keyboard could be improved with the LCD display for the symbol of the key with better view.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lata in view of Buisson, and further in view of Berman et al. (US 5,760,773).

In the above, it does not clearly indicate the touch sensitive of the LCD device.

Regarding **claim 3**, Berman teaches the LCD devices are touch sensitive. Berman teaches a method and handheld apparatus, figure in cover page, Fig. 1, 2, for displaying and manipulating information a computer display screen, having the graphic icons (col. 1, lines 6-14). Berman considers using the pen 12, Fig 1, col. 7, line 57, to manipulate the information displayed on the screen. Berman shows the touch sensitive LCD display 18 in col. 11, lines 5-15). Berman provides the solution for efficient graphic user interface (col. 6, lines 37-39)

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such that the displayed object could be efficiently activated by the touch of the LCD screen using pen 12 and the keyboard could be upgraded by using the pen (col. 3, line 53 to col. 4, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Berman's efficient graphic user interface for efficient activated the displayed object by the touching the LCD screen using pen 12 for replacing the keyboard by using LCD and pen, to Lata as modified above, such that the keyboard system would be efficient, upgraded, with the touch sensitive display.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lata in view of Bowen (US 5,502,460).

In the above, it does not clearly indicate the voice based keyboard device.

Regarding **claim 4**, Bowen teaches the keyboard device is voice based. Bowen teaches a keyboard having speakers (abstract, figure in cover page, col. 2, line 65 to col. 3, line 3).

Bowen teaches the speaker provides the keyboard operator with the audible verbal message, in response to key entry or computer transmitted message (col. 10, lines 5-7). It is apparently obvious, if not inherent, to include Bowen's voice verbal message from keyboard, to Lata, such that the message could be efficiently transmitted to the keyboard user. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Bowen's voice verbal message from keyboard, to Lata as modified above, such that the message could be efficiently transmitted to the keyboard user.

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7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lata in view of Frager et al. (US 6,268,806 B1).

In the above, it does not clearly indicate the sound based keyboard device.

Regarding **claim 5**, Frager teaches the keyboard device is sound based. Frager teaches a multimedia keyboard has stereophonic wired speakers 25 for the audio sound signal from the sound card within the computer (title, abstract, figure in cover page; col. 5, lines 20-29). It is obvious, if not inherent, to include Frager's speaker in keyboard for the audio sound signal, to Lata, such that the audio sound signal could be efficiently transmitted to keyboard user via the speaker with the keyboard (col. 2, lines 37-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Frager's speaker in keyboard for the audio sound signal, to Lata as modified above, such that the audio sound signal could be efficiently transmitted to the close-in keyboard user via the speaker in the keyboard.

8. Claims 6, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lata in view of Gladwin et al. (US 6,209,034 B1).

In the above, it does not clearly indicate the keyboard device is macro based, including key, sound or voice.

Regarding **claim 6**, Gladwin teaches the keyboard device is macro based with key, sound, voice. Gladwin teaches a technique for the remote keyboard macros activated by hot icons (

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title, abstract, Fig. 1, 2). Gladwin teaches the wireless interface device is provided with more user-defined hot icons, in response to a pen-down event, can be used to activate a keyboard macro, abstract. In Fig. 66a-66d, it shows the various keyboard configuration from the downloaded macro. Gladwin In Fig. 37, the activated macro contains the speaker control). It is apparent obvious to include Galdwin's keyboard macro, to Lata, such that the keyboard system could used the wireless macro to control the host computer by using the mirroring anything from the host computer (col. 1, lines 46-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Gladwin's keyboard macro, to Lata as modified above, such that the keyboard system could used the wireless macro to control the host computer by using the mirroring anything from the host computer.

Regarding **claim 7**, the keyboard device is wireless, referring to examiner's comment in claim 6 from Gladwin's wireless interface device.

9. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lata in view of Gladwin, and further in view of Ross et al. (US 5,594,953).

In the above, it does not clearly indicate the keyboard device is a cellular telephone.

Regarding **claim 8**, Ross teaches the keyboard device is a cellular telephone. Ross teaches the mobile satellite communication system 26 having keyboard as the input device using rubber/carbon membrane mounted in the hosing, for use in vehicle (abstract, figure in cover page, Fig. 2, 4, 8). Ross teaches mobile satellite communication system 26 is a cellular mobile



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telephone as shown in col. 6, lines 20-29; col. 6, lines 51-52). It is apparently obvious, if not inherent, to include Ross's mobile communication system 26 having keyboard as the mobile cellular telephone, to Lata, such that the device could be upgraded with the efficiency of having the cellular and mobile telephone features, as Ross suggested. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Ross's mobile communication system 26 having keyboard as the mobile cellular

telephone, to Lata as modified above, such that the device could be upgraded with the efficiency of having the cellular and mobile telephone features

Regarding **claim 9**, referring to examiner's comment in claim 8 above, Ross also provides the features for the mobile telephone device.

Regarding **claim 10**, referring to examiner's comment in claim 1 above, Lata's keyboard is not wireless.

10. Claims 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lata in view of Laud (US 4,772,876).

In the above, it does not clearly indicate the remote means from the central server.

Regarding **claim 11**, Laud teaches the remote means from the central server. Laud teaches the remote security transmitter system, abstract, figure in cover page. The remote keyboard 32 could communication with the central server, central station 18, for user to interface with the security system to test the system, to disarm the commands related to the security

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transmitter programming, col. 5, lines 35-50). It is apparently obvious to include Laud's remote keyboard for communicating with central station, to Lata, such that the keyboard system could be upgraded with the communication features to the remote central station as suggested by Laud, for efficient user interface to the central station. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Laud's remote keyboard for communicating with central station, to Lata as modified above,

such that the keyboard system could be upgraded with the communication features allow user efficiently communicate with the central station.

Regarding **claim 12**, referring to examiner's comment in claim 1 above for the central server local to the keyboard device. The host system 10 (figure in cover page) provided the local control means for the keyboard.

### ***Conclusion***

11. In the above discussion of the disclosures, Lata discloses a keyboard comprising a plurality of configurable programmable multifunction keyboard 16, with keys 16. Lata discloses the central server host system 10, the keyboard processor 12, the means for dynamically configuring a legend on a selected key from the configurable keys for displaying of legend for key. Lata discloses the dynamically changing keyboard configuration from configuration 70 to configuration 72, and further to configuration 74. Lata discloses the database, within the keyboard processor 12, stores the dynamically modified keyboard configuration. Lata discloses means for detecting an actuation of the selected key with the legend. The actuation control means 46 for monitoring the switch such that when switch is activated, an actuation

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signal is generated to identify the actuated switch. Lata discloses means for associating the actuation of the selected key with the legend on the selected key, the displayed each legend is associated with each key switch.

Buisson teaches the flat LCD for displaying configured symbols assigned to each key.

Berman teaches the efficient graphic user interface for efficient activated the displayed object by the touching the LCD screen using pen 12 for replacing the keyboard by using LCD and pen.

Bowen teaches the voice verbal message from keyboard.

Frager teaches the speaker in keyboard for the audio sound signal.

Gladwin teaches the activated keyboard macro using touching pen to the screen.

Ross teaches the mobile communication system 26 having keyboard as the mobile cellular telephone.

12. The cited pertinent prior arts are listed below:

- A. US 4,696,054, Tsugel et al. Discloses the wireless portable device has keyboard (figure in cover page, col. 1, lines 9-11; col. 5, line 16).
- B. US 5,164,723, Nebenzahl discloses the configurable touch sensitive keyboard with display for each key.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

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Daniel Hunter, can be reached at (703)-308-6732.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the Technology Center 2600 Customer Service Office  
whose telephone number is (703) 306-0377.

Charles Chow

January 27, 2003.

*Chaf*  
*toron* 2/10/03